CLAIMS:

1. A method of manufacturing a magnetic tunnel junction device, in which a stack comprising two magnetic layers and a barrier layer extending in between is formed, characterized in that one of the magnetic layers is structured by means of etching, in which, during etching, a part of the relevant layer is made thinner by removing material until a rest layer remains, whereafter the electrical resistance of the rest layer is increased by chemical conversion.

2. A method as claimed in claim 1, characterized in that the chemical conversion is effected by oxidation and/or nitridation.

3. A method as claimed in claim 1, characterized in that physical etching is performed.

4. A method as claimed in claim 1, characterized in that the magnetic layer to be structured is built up from, consecutively, a basic layer and a layer structure comprising at least a further layer for magnetic pinning of the basic layer.

5. A method as claimed in claims 3 and 4, characterized in that, prior to physical etching, the layer structure is chemically etched until the basic layer is reached.

6. A method as claimed in claim 2, characterized in that an oxidation of the rest layer is effected by thermal oxidation, plasma oxidation or UV-assisted oxidation.

7. A method as claimed in claim 2, characterized in that a nitridation of the rest layer is effected by thermal nitridation or plasma nitridation.

8. A magnetic tunnel junction device obtained by means of the method as claimed in any one of the preceding claims.

9. A magnetic tunnel junction device as claimed in claim 8, in which the layer other than the structured magnetic layer comprises a soft-magnetic layer which is usable as a flux guide.

10. A magnetic field sensor provided with the magnetic tunnel junction device as claimed in claim 8.

11. A magnetic field sensor as claimed in claim 9, provided with a magnetic yoke which is in magnetic contact with the soft-magnetic layer of the magnetic tunnel junction device.

12. A magnetic memory provided with the magnetic tunnel junction device as claimed in claim 8.